

Proceedings of AFLA 7

The Seventh Meeting of the Austronesian Formal
Linguistics Association

Edited by
Marian Klamer

Vrije Universiteit Amsterdam
Department of Linguistics
2000

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Held at the Vrije Universiteit Amsterdam
May 11-13, 2000-07-06

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Preface

This volume consists of papers presented at the seventh meeting of AFLA (Austronesian Formal Linguistics Association), held at the Vrije Universiteit on May 11-13, 2000.

For the first time in the history of AFLA, this meeting was held outside the North-American continent, and contained contributions by speakers from eleven different countries: New Zealand, Australia, Indonesia, Brunei Darussalam, Taiwan, the USA including Hawaii, Canada, the UK, France, Germany, and The Netherlands.

Apart from the languages that are traditionally well-represented at Austronesian conferences, we were happy to see that the program also contained work on relatively small or lesser described languages, such as the minority languages of Taiwan, North-West Borneo, Eastern Indonesia, Papua and Oceania.

Special themes of this conference were Iconicity and Argument marking. The papers in this volume show that the program covered a broad range of subdisciplines -- from discourse grammar, phonology, morphology, syntax, to semantics -- and that the authors are working within various theoretical frameworks. But despite the obvious differences in expertise, interest and background, the atmosphere on the conference was typically AFLA: lively and constructive, with an average rate of attendance of about 80%. The papers in this volume deserve the same rate of attention.

This meeting has again furthered the unwritten mandate of AFLA to encourage the formal study of Austronesian languages, especially work by speaker linguists and junior scholars. Six scholars presented analyses of their native language, and more than half of the 45 participants subscribed as 'student'. This suggests that the future of Austronesian linguistics looks very bright indeed.

The eight edition of Afla will be held in the spring of 2001 at the Massachusetts Institute of Technology (MIT) in Boston, USA. The principal organiser will be Ileana Paul.

Marian Klamer, Vrije Universiteit Amsterdam

Proceedings of previous AFLA meetings:

A Selection of the papers of AFLA 2, in 1995 is published as:
Paul, Ileana, Vivianne Phillips, and Lisa Travis (eds.). 2000. *Formal Issues in Austronesian Linguistics*. Dordrecht, Kluwer.

The proceedings of AFLA 3 and AFLA 4 in 1996/1997 are published as:
Pearson, Mathew (ed.). 1998. *Recent papers in Austronesian Linguistics*. UCLA Working Papers in Linguistics 21.

The proceedings of AFLA 6 in 1999 are published as:
Smallwood, Carolyn and Catherine Kitto (eds.). 2000. *Proceedings of AFLA VI*. Toronto Working Papers in Linguistics.

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Categorial Change in Oceanic Languages: First Contact on the

North New Guinea Coast

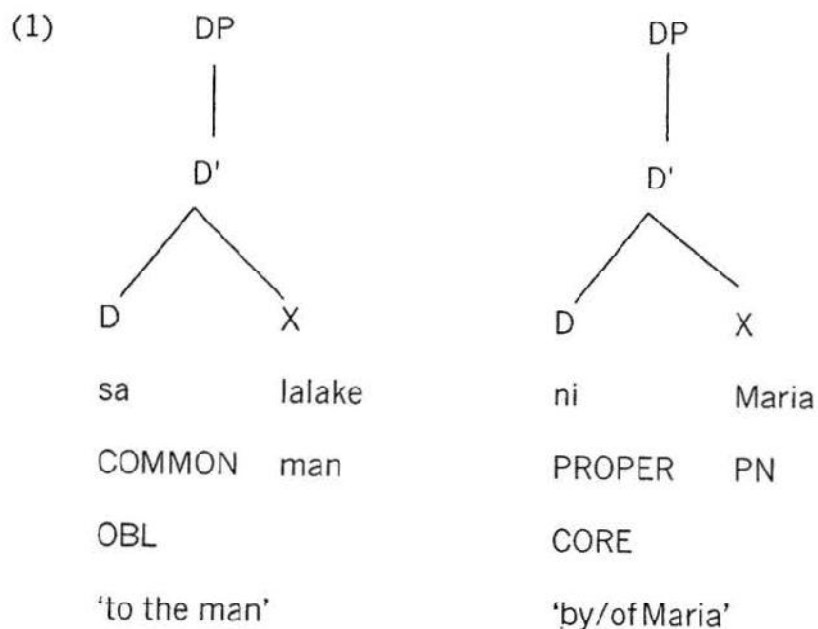
William A. Foley

University of Sydney

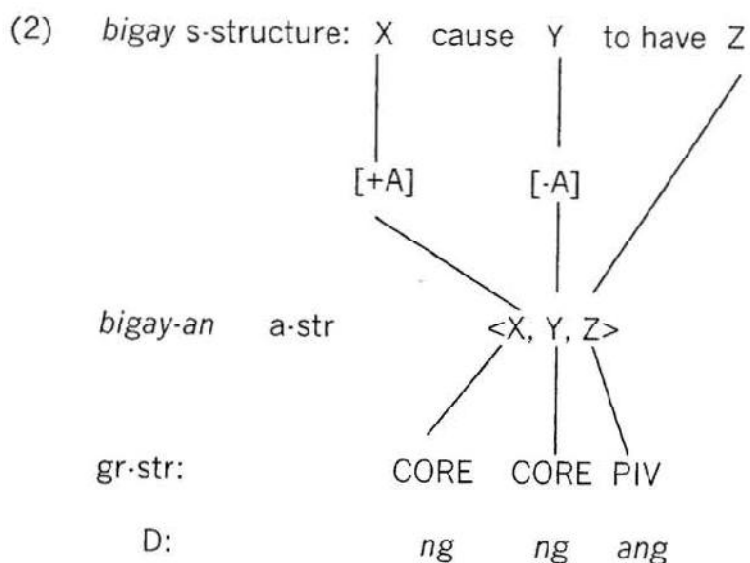
One of the most remarkable differences that one notices as one thumbs through dictionaries of Western Austronesian languages like Tagalog and Indonesian and those of Western Oceanic languages of the north coast of New Guinea like Gedaged (Mager 1952) and Yabem (Streicher 1982) is the relative lack of precatatorial roots in the latter. Given that precatatoriality is a striking feature of other Oceanic languages, especially the conservative languages in the Central-Eastern Oceanic subgroup like Fijian (Dixon 1988) and argued convincingly for Polynesian languages like Tongan (Broschart 1997), it would appear that these Oceanic languages of the New Guinea north coast are innovative in this aspect. In this paper I will trace the developments that led to this change in typology, but first I wish to discuss what I mean by precatatoriality in AN languages and revise the reconstruction of the clause structure of Proto-Austronesian in the light of this idea.

In Foley (1998) I presented an analysis of Tagalog as a precatatorial symmetrical voice language. The gist of this analysis is as follows. Most Tagalog roots are precatatorial, i.e. not assigned to lexicosyntactic classes of Noun or Verb, just unspecified, X. Whether a given root is to function referentially or

predicationally is determined by its functional head, D or I respectively, of which it is the complement within a DP or IP phrasal projection. D is drawn from a set that contrasts proper versus common and also case, much like German determiners:



The I head is more complex. First because the roots are not verbs, they do not take argument structures, so that first they must be derived as verbs with their respective array of argument structures. This is accomplished by a set of voice affixes, commonly called 'the focus affixes', which not only derive a verb and its associated argument structure, but also select one of these arguments as the clausal PIVot and assign grammatical functions appropriately:

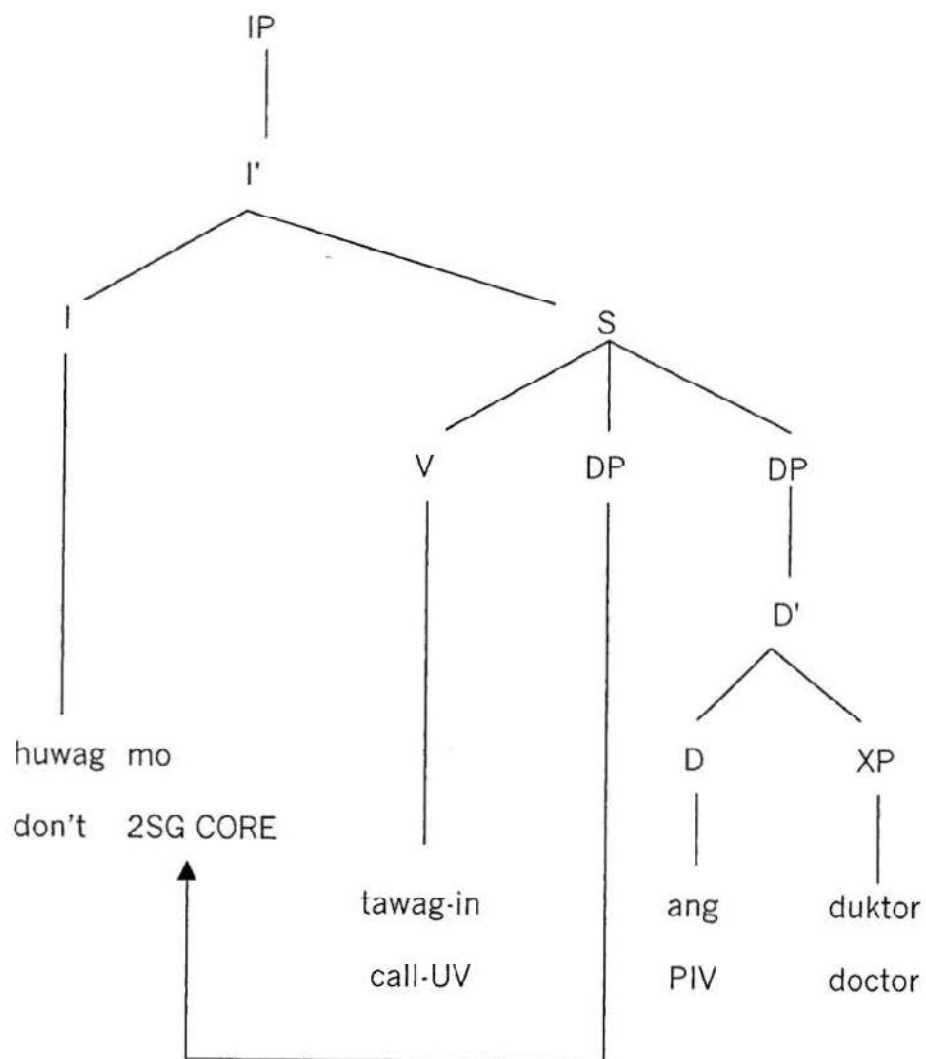


The structure of a verb derived so and its associated DPs, arguments and not, in traditional terms, an S, are what are specified for I. The I takes the full S as its complement. The I may be realized by what is commonly called an AUXiliary, in which case the verb of the S appears in a non-finite form, i.e. without I inflection:

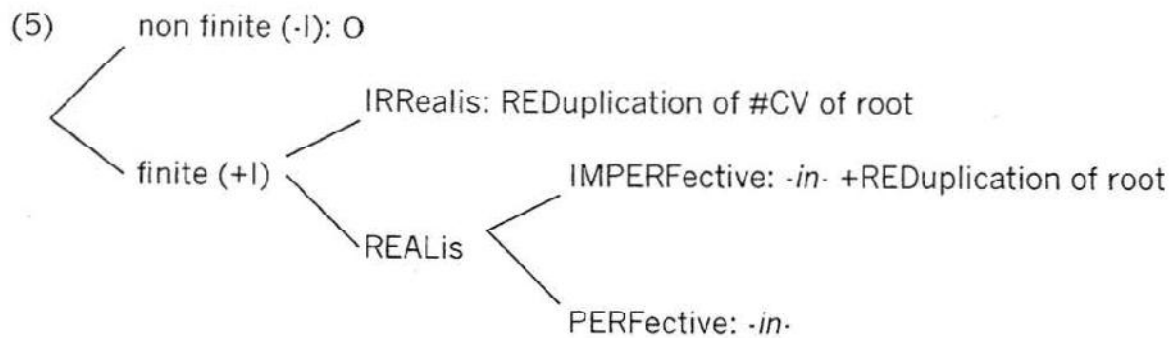
- (3) *huwag* *mo-ng* *tawag-in* *ang* *duktor*
 don't 2SG CORE-LIG call-UV PIV doctor
 'Don't call the doctor'

Note the pronoun *mo* 2SG CORE occurs as an enclitic to the AUXiliary *huwag* 'don't' and precedes the verb *tawag-in* 'call s. o.' that governs it. This is a typical feature of Tagalog: CORE and PIVot pronouns, as well as a number of particles are specified as enclitics to an I head:

(4)



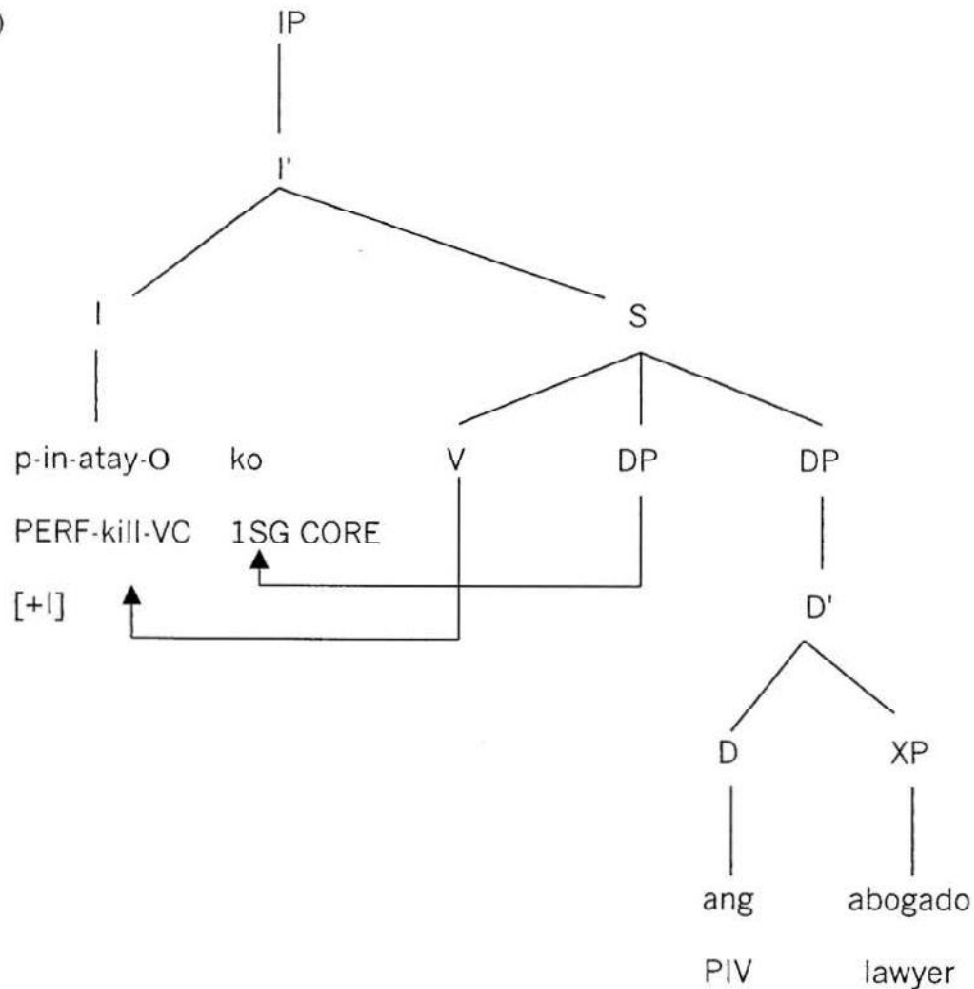
However, verbs can be directly inflected for I, i.e. be finite, along a dimension of a mood contrast, realis versus irrealis, and within realis, for aspect, imperfective versus perfective:



When the verb is inflected for I there is no AUXiliary, and it must occupy the I head position of the IP in order to meet requirements of feature compatibility:

- (6) (a) p-in-atay-O ko ang abogado
 PERF-kill-UV ISG CORE PIV lawyer
 'I killed the lawyer'

(6) (b)



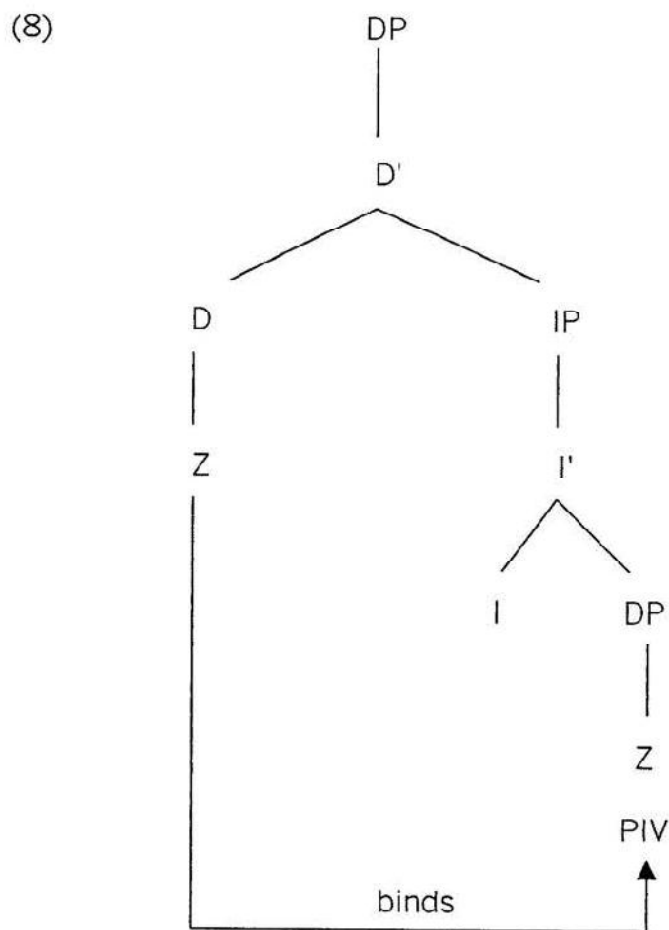
It is a well known fact about Tagalog that it allows fully inflected verbs to behave nominally, i.e. be referential, as in (7):

- (7) p-in-atay-O ko ang nag-a-abogado
 PERF-kill-VC 1SG CORE PIVE IMPERF.VC-lawyer

'I killed the one becoming a lawyer'

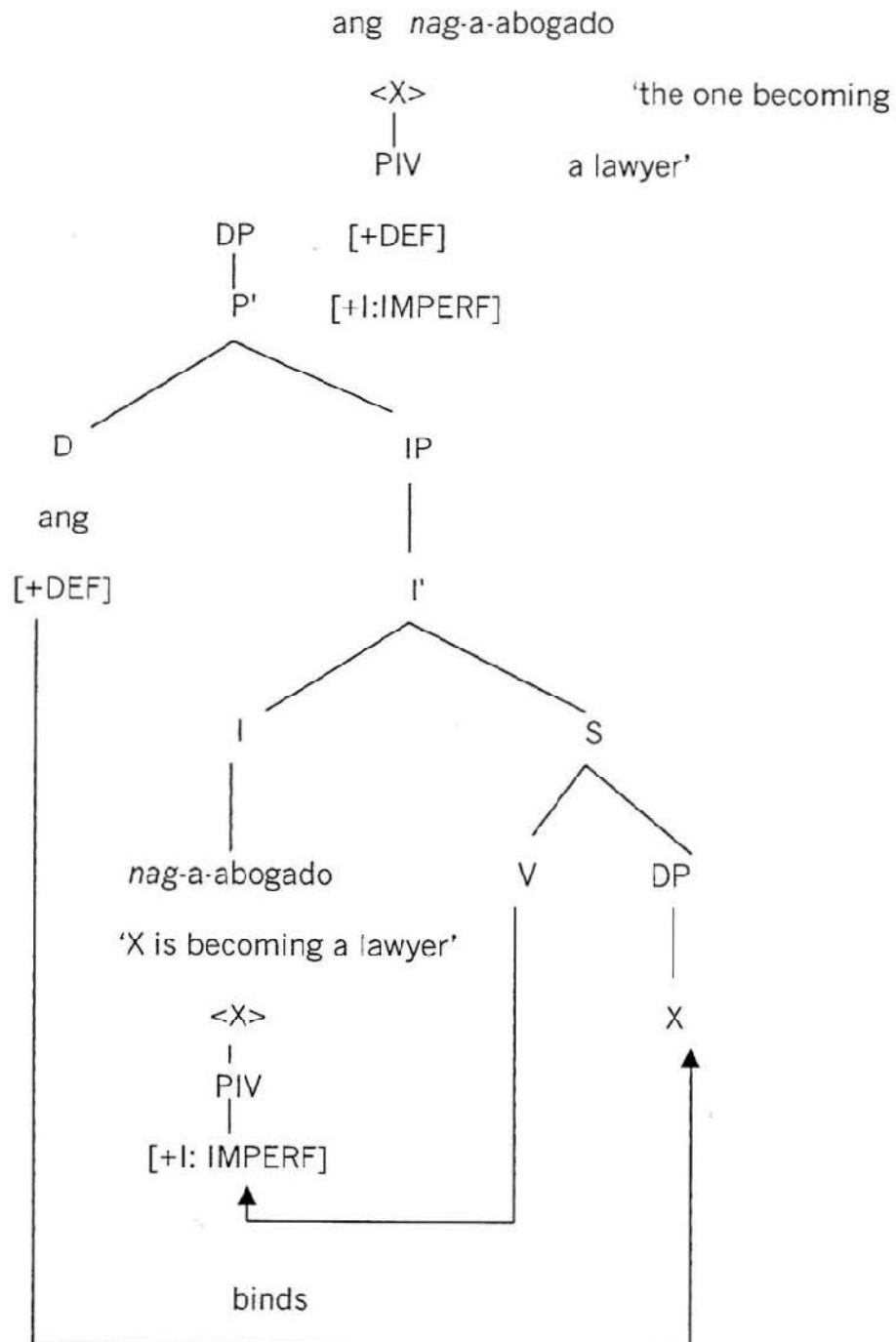
In the terms of this analysis, this is simply a DP with an IP complement and in fact is the general structure of relative clauses in the language. Relative clauses in Tagalog like those of Western Austronesian languages generally are formed by

deletion: the DP within the IP relative clause coreferent with the head is deleted. But of course the argument structure of the verb of the IP must be satisfied and this is assured by stipulating that only the PIVot DP of the relative clause may be the relativized constituent (note that the PIVot DP, being specified by the voice affix on the verb, is the only fully recoverable argument) and further that the D of the higher DP projection bind it (Jelinek and Demers 1994):



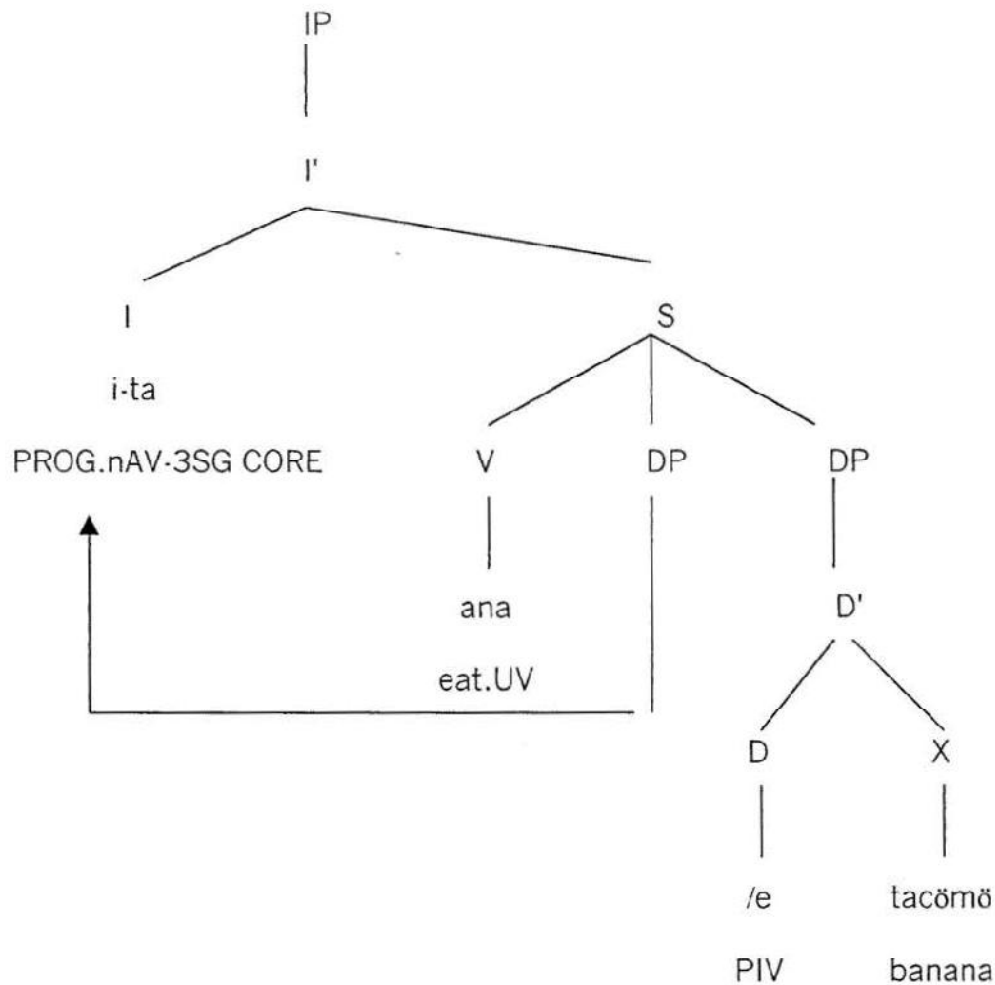
For the DP in (7) the structure is:

(9)



It is clear when investigating diverse languages of Taiwan drawn from varying first order subgroups of Austronesian like Atayal (Egerod 1965, 1966; Huang 1993,

(c)

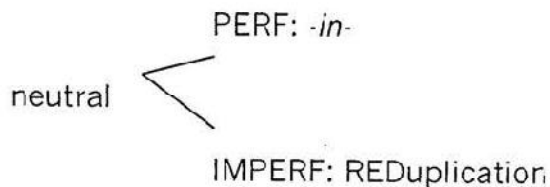


It should be noted that Tsou's n-AV voice affixes descend from the atemporal series. This is to be expected if the basic IP type that survived into this language was that headed by AUXiliaries and the IPs headed by I inflected verbs were lost. Interestingly, however, as the paradigm collapsed, the AV affix was drawn from the neutral verb series (see below) a development which has gone to completion in Tagalog, where the neutral forms have taken over the role of the atemporal non-finite set entirely. Tsou seems a local development; PAN was much more

probably like Tagalog with AUXiliary-headed and AUXiliary-less IPs illustrated by Atayal (Huang 1993; Zeitoun et al 1996):

- (11) (a) m-ihiy-saku/ tali/ hiva/
 AV-beat-1SG PIV PN yesterday
 'I beat Tali/ yesterday'
- (b) wan-su/ m-ihiy sayun
 AUX:PAST-2SG PIV AV-beat PN
 'You beat Sayun'

In addition to the non-finite forms which followed AUXiliary I heads (with secondary uses as plain imperatives and clause chaining dependent verbs (Egli 1990; Ross 1995), to be discussed below), PAN appears to have had a verbal system inflected for I in a manner not too different from Tagalog. There was a neutral verb form derived from the root simply by the voice affix, AV: *-um-, UV: *-n- ~*O, and LV: *-an. It is not clear what the actual semantics of these forms was, having no overt realization of I, but they could be inflected for aspect, in a way already familiar from Tagalog.



Finally, there was a set of forms labelled by Ross (1995) as projective, derived from the atemporal, non-finite set by the addition of a suffix -a preceding the non-finite voice affixes, -O, -u and -i. It is not clear whether these forms were truly finite (i.e. inflected for I) or a second set of non-finite forms derived from the atemporal forms by a process of insubordination (Evans 1993). Their semantics

is clearly in the irrealis range, intention, possibility and exhortation, so that latter proposal seems likely: modal or irrealis forms often arise from non-finite embedded forms that have lost their embedded status. In any case both the projective and atemporal series are lost in Tagalog; the former neutral series takes over the function of being the non-finite form. Table 1 drawn from Ross (1995) presents his full reconstruction of PAN verbal inflection:

Table 1: PAN Verbal Inflection

		AV	UV	LV
Non-finite	atemporal	O	-u(∼a)	-i
[·I]	?projective	(-um-) + a + O	aw<-a + -u	ay<-a + -i
Finite	neutral	-um-	-«n	-an
[+I]	PERFective	-um- + -in-	-in- + O	-in- + -an
	IMPERFective	-um- + RED	RED + -«n	RED + -an

Another difference concerns the behavior of the enclitic pronouns. In PAN, their encliticization to the I head seems to have been optional, although it is obligatory in many daughter languages. Their optional encliticization in PAN is witnessed by Rukai in examples like the following (Ross 1995):

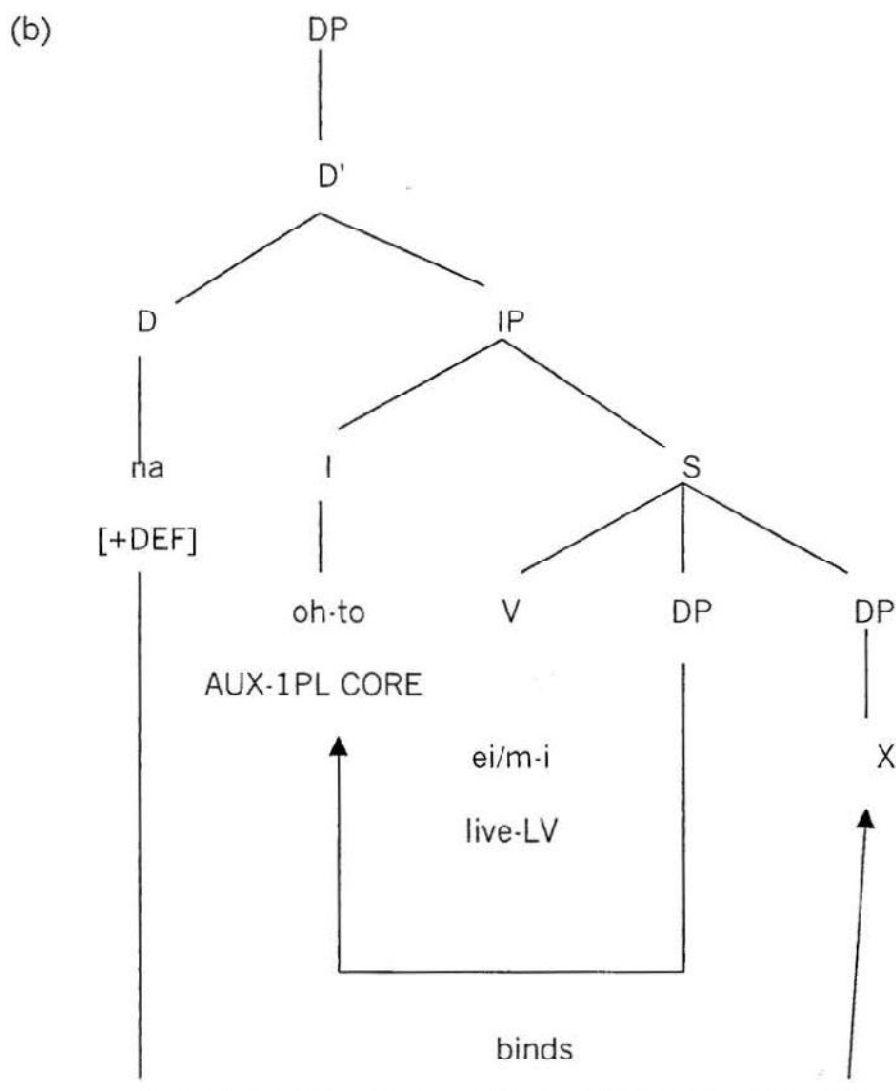
- (12) wa-kan«-aku
 PAST-eat-1SG PIV
 'I ate'

The prefix *wa-* PAST is derived from the PAN AUXiliary **ua* PAST (cf Atayal *wan* PAST in (11b) above) which has become procliticized to the verb. Note that the pronominal DP *aku* 1SG PIV follows the verb rather than occurring between the

AUXiliary and the verb where we would expect it if encliticization to the AUXiliary was obligatory. This argues that encliticization was optional in PAN and either remained optional or was lost in Rukai, but became obligatory in many daughter languages.

Another important difference between Tagalog and probably PAN concerns the headless relative clause structures or nominalizations illustrated in (9) and analyzed here as DP over IP structures. In Tagalog and most Western Austronesian languages including many Taiwan languages like Paiwan these are restricted to IP complements headed by I inflected verbs. PAN appears to have allowed such structures to be formed on IPs headed by AUXiliaries. In Tsou these are the only DP over IP constructions, as would be expected given its constraint requiring IPs headed by AUXiliaries (Starosta 1985):

- (13) (a) ic/o na oh-to ei/m-I
 that D AUX-1PL CORE live-LV
 'That's where we live'



Remarkably, however, in addition to the usual structures, such as (13b), DP over IPs headed by I inflected verbs, are also found in Atayal, a language of a different highest order subgroup in Austronesian, strongly suggesting that structures like these must be reconstructed for PAN as well.

Finally, in marked contrast to languages like Tagalog and Indonesian, in

which the same affixes can be used in different ways on roots to derive forms which can function referentially or predicationally:

(14) -in: lagnat 'fever': lagnat-in 'have a fever'

awit (um-awit 'sing'): awit-in 'song'

-an tukod 'cane: tukur-an 'use as a cane'

hiram (h-um-iram) 'borrow'; hiraman 'place for borrowing'

it is a notable fact that Taiwan languages seem especially rich in derivational affixes (Blust 1999: Ferrell 1982). In contrast to the Tagalog situation illustrated above, some of these seem restricted to deriving either a verbal or a nominal form. For example in Pazeh (Blust 1998, 1999), the prefix *sa-* derives IV voice verbs:

(15) *sa-talek* *alaw* *ki* *bulayan*
 IV-cook fish PIV pan

'The fish was cooked with a pan'

And through a nominalization by DP over IP structures, referential expressions like : *hiud* 'fish', *sa-hiud* 'fishing pole'; *kuxus* 'scrape' *sa-kuxus* 'scraper'; *tabuk* 'peck', *sa-tabuk* 'bird's bill'. However, there is another affix consisting of reduplication of the initial C of the root followed by the vowel *a* that also derives referential expressions describing instruments, but in this case is *never used as a verbal voice affix*:

(16)

hium	'blow on'	hahium	'bamboo tube for blowing on fire'
kusus	'scrape'	kakusus	'razor'
bizu	'write, draw'	ba-bizu	'letter'
kawas	'say'	ka-kawas	'words'
buba	'kill with poison'	ta-tuba	'fish poison'

(compare sa-tuba 'store bought poison
for rats')

As this affix *Ca-* is widespread in Taiwan languages and indeed found in other AN languages outside Taiwan, it must be reconstructed for PAN, and with it a contrast between referential expressions derived by a DP projection over IP complements and simple nominal derivation by affixation. This does not change the status of precategoriality in PAN: the roots must be derived to function referentially/nominally or predicationally/verbally, but it does indicate that D heads projecting a DP phrase were not the only way to derive referential expressions in PAN. Tagalog and Western Austronesian languages of like ilk seem to have moved from the flexibility of PAN into increasing reliance on functional heads and phrasal projections; hence the lack of obligatory D heads in languages like Atayal and Pazeh versus their pervasive presence in Tagalog.

To summarize our findings so far: PAN was a strongly left-headed language, dominated by DP and IP phrasal structures. Roots were precategorial and required derivation to function referentially or predicationally, and this was

commonly accomplished syntactically through being complements of the proper functional heads, D (referential) or I (predicational). I heads could be realized syntactically through the use of AUXiliaries or morphologically, by inflecting the verb for I, in which case the verb occupied the I head position. Pronominal DPs were always encliticized to the I head; if that was an AUXiliary, then they occurred between the AUXiliary and the verb. It is not clear if all CORE pronouns encliticized or only those denoting the Actor, especially when the PIVot was a non-Actor. Clearly the latter case was the strongest target for encliticization, as all languages allow or require encliticization, in this case. The form of the non-PIVot Actor pronominal DPs when encliticized was identical to that of the forms marking possession, as indeed generally non-PIVot Actor and possessive DPs are formally identical.

In the transition from PAN to Proto-Oceanic (POC) a number of major grammatical changes occurred. The basic sentence type with an AUX as I head and a non-finite atemporal verb survived into POC, but the sentence types with I inflected verbs serving as head were lost. The PAN AV atemporal form now became the intransitive clause type, while in the transitive clauses the UV atemporal verbs in **-a* (~ **-u*) merged with the form in **-i*, leaving the PAN LV atemporal form as the basic transitive clause type. (17) exemplifies the normal clause types in Pre-POC:

(17) Pre-POC clause types

ITR:	AUX	PRO	V	(DP)	
TR:	AUX	PRO	V.*i	DP	(DP)

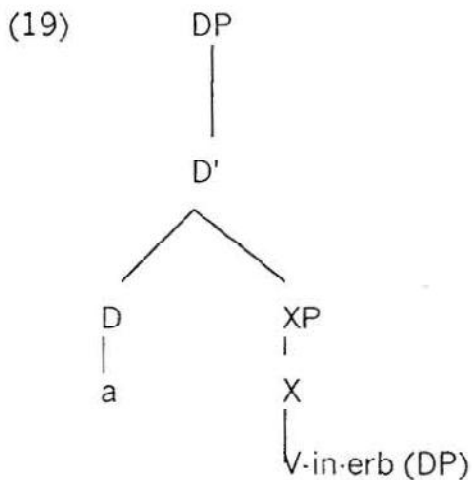
The PRO forms could be either non-PIVot actor forms (morphologically identical to possessive pronominals) or the PIVot forms: in modern Oceanic languages the so-called subject proclitic pronominals can be descended from either of these sets, different languages exhibiting differing ancestry. However, given that there was no longer any productive voice system, the PRO always referenced the actor/subject DP. By POC, the AUX element is lost; hence the difficulty of reconstructing the POC tense-aspect-mood system noted by Ross (1988). This left the old enclitic pronominal now a proclitic to the following verb, and in addition in transitive clauses new pronominal enclitics referencing the object were innovated from older independent pronominal DPs:

(18) POC clause types

ITR: PRO·V (DP)

TR: PRO·V·*i-PRO (DP) (DP)

These changes had an especial impact in embedded clauses. With the loss of I inflected verb heads as an option in main clauses, these structures in embedded clauses in former DP over IP structures now became islands. As the transparency of the I inflection here was lost, it was no longer possible for speakers to identify them as IPs, i.e. relative clauses:



This had two effects. First new ways of forming relative clauses had to be innovated, and with the loss of a productive voice system, the restriction on PIVot only relativized DPs had to be dropped. Modern Oceanic languages mostly relativize DPs in situ leaving PROnominal copies. Secondly, because the XP was no longer categorically identifiable on its own, but the whole constituent was, as a DP, i.e. semantically referential, the formerly I inflected word was now reanalyzed as a normative complement of a D head, i.e. a referential word, in short a derived noun. What had formerly been an I inflected verb in PAN, now became a derived noun in POC (note this sequence is exactly the opposite of that proposed in Starosta, Pawley and Reid (1982)), so that by the time of POC a clear word level category of noun had emerged, and this process of nominal derivation through formerly verbal affixes remains productive in conservative Oceanic languages like Tolai: (Mosel 1984) and Nakanai (Johnston 1980):

(20) (a) Tolai

momo	'to drink'	m-in-omo	'a drink'				
mate	'to die'	m-in-at	'death, corpse'				
tata	'talk'	t-in-ata	'word, language'				
ian	'eat'	ni-(i)an	'food'				
kukul	'buy'	k-un-ukul	'buying'				
a	k-un-ukul	na	kar	ka-i		ra	tutana
D	NOMLZ-buy	LIG	car	POSS CLSF-POSS		D	man
'The buying of the car by the man'							

(b) Nakanai

taga	'afraid'	t-il-aga	'fear'				
vago	'to pole a canoe'	v-il-ago	'a pole'				
peho	'die'	p-il-eho	'a corpse'				
pou	'sit'	p-ul-ou	'stay'				
la	p-ul-ou	tamiteu	kama	taritigi			
D	NOMLZ-sit	POSS 1PL EX	NEG	good			
'Our stay wasn't good'							

However, in spite of this innovation of a word level lexicosyntactic category of noun, it is clear that very strong features of precategoriality remained in POC, as it does in most modern Oceanic languages, in that prototypically nominal roots can freely be used predicatively without derivation as exemplified by Tolai (Mosel 1984):

(21)

(a)	a	kaliku	i	ga	boroi	lua
D	snake	3SG S	REM	pig	before	

'The snake "pigged" (i.e. became a pig) before'

(b)	tuk	i	ga	pui	vanavana	mulai
until	3SG S	REM	bush	by and by	again	

'Until it by and by "bushed" again'

'Until the bush grew again'

The opposite, the use of underived prototypically verbal roots as referential DPs is rarer, due no doubt to the innovation of derived nouns by reanalysis of the older I inflected verbs. Yet it does appear: again Tolai (Franklin, Kerr and Beaumont 1974):

(22) (a) a tutana i ririvon
 D man 3SG dream

'The man is dreaming'

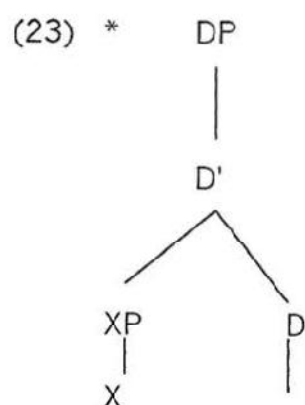
(b)	a		ririvon	i	tar	kaina
D	dream		3SG	PERF	bad	

'The dream was bad'

This contrast is buttressed by Mosel's point (1984:136) that English nouns borrowed into Tolai are frequently used predicatively, but borrowed English verbs are not used referentially. However, as productivity of the processes deriving nouns from prototypically verbal roots declines, we might expect more robust precategoriality to reemerge, and this is indeed the case in Oceanic languages like Fijian and Tongan (Broschart 1997).

A few words on wider typological issues are in order here. PAN was and POC remained a strongly left headed language. Precategoriality seems particularly well adapted to left headed languages in that the functional head which instructs

how to take the following XP, predicationally, referentially (or even attributively, a topic beyond my scope here), always occurs first, a clear processing advantage, a claim buttressed by the fact that crosslinguistically strong precategoriality does seem particularly salient in language families strongly of a left headed structure, Salishan, Wakashan, Austronesian, as witnessed by the literature going back to Boas (1911) on this topic. In fact we can go further and contrast the typical left headed language with DPs to right headed languages (e.g. Latin) with NPs or KPs. The claim is that in right headed languages, processing constraints make D functional heads which follow precategorial XP complements dysfunctional:



Or in optimality theoretical terms this is a very highly ranked constraint. In fact, a very widespread, but weaker constraint is that right headed languages don't much like DPs at all and overwhelmingly across the globe, with high statistical reliability, there is an inverse correlation between right headed typology and DPs, as witnessed by strongly right headed families like Classical Indo-European, Uralic, Altaic, Japanese, Australian, Sino-Tibetan, Andean. Furthermore, as right headed languages have NPs rather than DPs, they typically have a robust contrast

between noun and verb roots, necessary so that the proper NP phrase can be projected from the syntactic N heads. The possibility of precategoriality in languages with KPs, i.e. the phrase is headed by a K category, a case suffix, enclitic or postposition which takes a precategorial XP complement has not yet been investigated and cannot be ruled out a priori, although in such cases it seems difficult to see how a principled distinction between K and D categories could be drawn.

When we turn to IP structures, somewhat the opposite picture emerges. Right headed languages from diverse families across the world are characterized by clause chaining, a pattern in which clauses headed by morphologically stripped down verbs precede ones headed by a fully inflected verb, from which the previous verbs take their specifications for these I features. Watam of the Papuan Lower Sepik-Ramu family illustrates:

(24) Watam (NAN: Lower Sepik-Ramu)

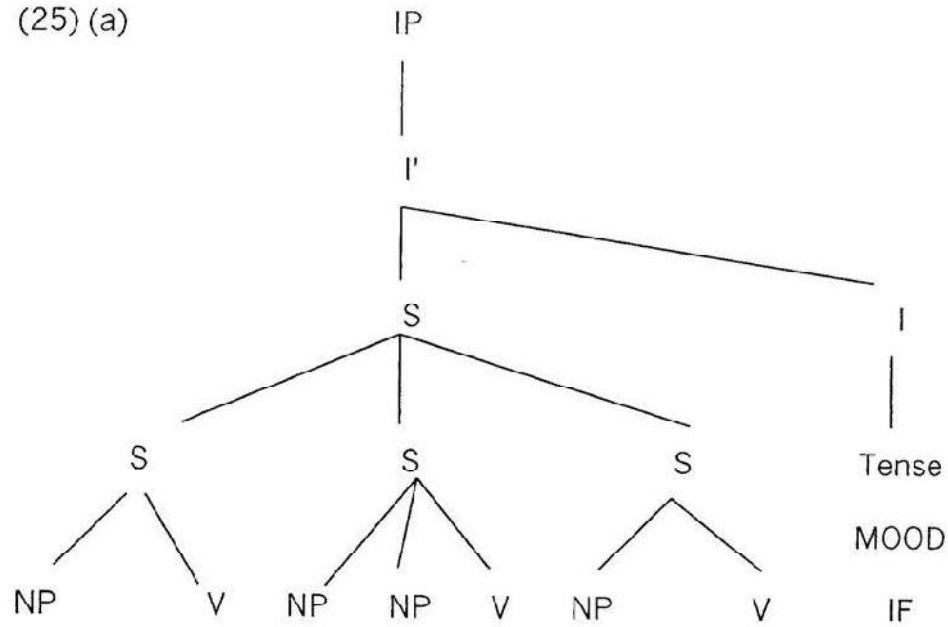
waut	nakan	i	mbo	ga-r	saNga-r
stone	big	a	LOC	climb-DEP	go-DEP

timoN	an	Ng-utki-r	ak-ri
on top	this	FOC-stand-DEP	call out-PAST

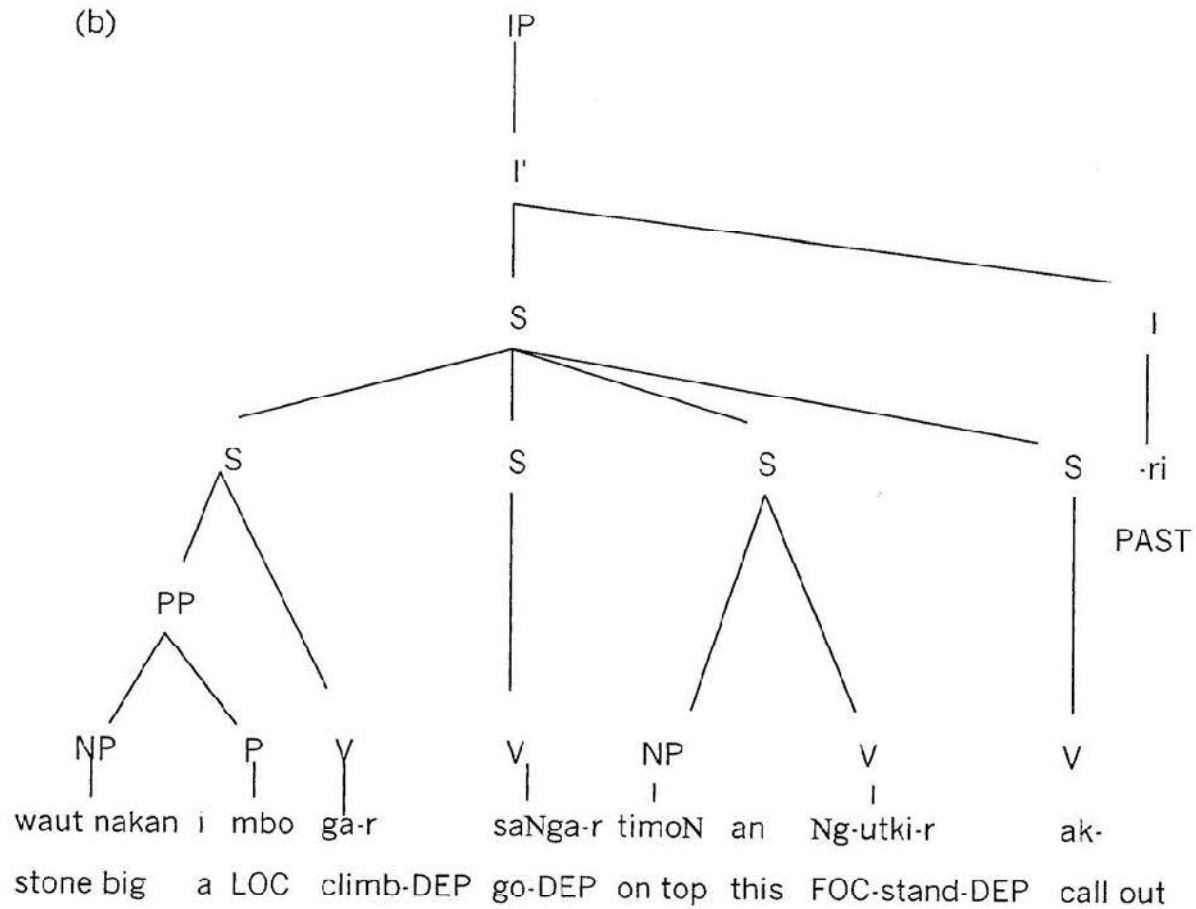
‘(he) climbed up a big rock and stood on top of it and called out’

In this example only the final verb is specified for tense, i.e. I, by *-ri* PAST. The previous verbs simply mark their dependence through *-r*. A straightforward analysis here is that the tense is the I head which takes a complex complement, i.e. a number of conjoined S nodes:

(25) (a)

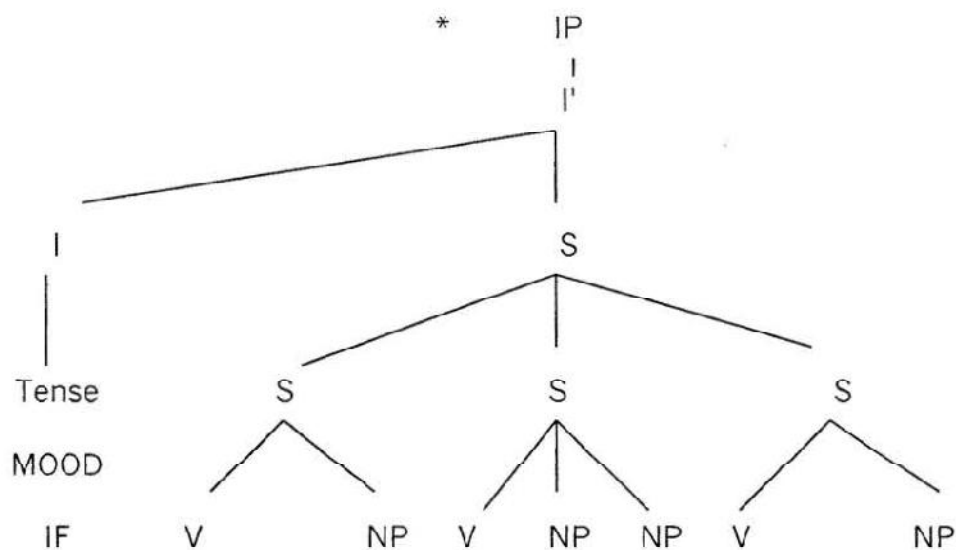


(b)



The structure here is simplified; it is certainly necessary to posit layers of more deeply embedded I heads with circumscribed scope relations (Foley and Van Valin 1984; Cinque 1998), as well as lower level narrow scope I categories like aspect within the individual S constituents, but the above does give a clear idea of the overall structure. Now structures like (24) and (25) are strongly disfavored in left headed languages. While there are a few left headed AN languages that have analogs of clause chaining like Paiwan in Taiwan (Egli 1990) and some Oceanic languages in Southern Vanuatu (Crowley 1998; Lynch 1983), it is quite rare and is not reconstructable for PAN or POC. Overwhelmingly AN languages link clauses headed with fully inflected verbs or AUXiliaries through paratactic coordination or subordination. Clause chaining is simply not in their grain and again this is true of strongly left headed language families like Salishan, Wakashan, or Mayan. Again the following structure is highly dysfunctional or in OT terms, a very highly ranked constraint.

(26)



The only place in the domain of the AN languages where non-Austronesian languages survive is the region around New Guinea, where some 800 such languages are spoken. The north coast of New Guinea in particular is densely populated with hundreds of non-Austronesian (NAN) languages and has been so for some 40,000 years. While belonging to a number of language families, all languages of this region, with the exception of those of one family (the Torricelli family, not of much relevance to my topic here) are characterized by a strong right headed typology. All have a sharp noun/verb root distinction, lack DPs and exhibit extensive clause chaining-all prototypical features of right headed languages and all lacking in POC, a strongly and consistent left headed language. Oceanic speakers, however, have been in the region of the north coast of New Guinea for some three millennia (Spriggs 1997) and have long term ongoing and often intense trade and cultural relations with their NAN speaking neighbors, causing in many cases significant shifts in the typological profile of the Oceanic languages in the region.

Essentially there seem to be two outcomes, what I will call strip or convert. The strip solution I will dispose of rather quickly, as it is of less interest to my main concern. This is the case in which the language undergoes simplification during the process of converging with adjoining typologically divergent languages. Adzera (Holzknecht 1986) in the upper Markham river valley, in close contact with Trans New Guinea languages illustrates this well. While POC were already

morphologically rather simple, Adzera improves on this profile. All clitic pronouns are lost, as well as the transitive verb suffix **-i*. The verbal structure, however, remains strongly left headed, with proclitics and prefixes to mark I, with a minimal obligatory contrast between REALis and IRRealis. The category of D is completely lost (this is general along the north coast, undoubtedly due to its lack in neighbouring NAN languages) and with it DPs. NPs now emerge as a basic syntactic category. What distinguishes whether a given root is to be taken referentially or predicationally, is the presence of I marking in the latter case, but, as expected, precategoriality is completely lost, in sharp contrast to Tolai, not to mention Tongan or Tagalog. What is especially notable is the extension of productive nominalization from the old PAN LV affix *-an* (Adzera *-(d)a(n)*) to uses of non-finite nominalization totally atypical of OC languages that preserve these, but widespread among NAN languages:

(27

(a) non-finite relative clause (note preserved left head structure)

- (i)

garam	[is-a	yafas]
man	catch-NOMLZ	fish

'a fisherman'

- (ii)

nam	[nu/-an]
food	cook-NOMLZ

'cooked food'

(b) non-finite complement

- (i)

araNan	i-ni	[ba-dan]
3SG	REAL-say	come-NOMLZ

'He wants to come'

- (ii) dzi i-ni rut in i [ba-dan]
 1SG REAL-say together 3SG first come-NOMLZ

'I first told him to come'

The OC languages along the coast of Madang Province exhibit the convert solution, taken to varying degrees of completion, in other words they have shifted in the direction of the right headed typology of their NAN neighbors. As expected, the functional head D (and consequently DPs) disappears in all these languages, given its dysfunction in right headed languages, but the real focus of interest are changes affecting the IP. Manam (Lichtenberk 1983) represents the more conservative development. Here the clausal constituent order has switched to the canonical SOV pattern of right headed languages:

(28)

 tamóata bóro di-tao-táon-i
 man pig 3PL S REAL-RED-hunt-3SG O

'The men were cahsing the pig'

And the language has postpositional PPs in contrast to POC's prepositional phrases: *bía /ana* beer because 'for a beer'. The nominalizer *-(N)a* derived from PAN **-an* is also in evidence in Manam, and like Adzera is used to form non-finite complements, but it is not used in non-finite relative clauses. Beyond this, however, there is little shift. The IP structure remains strongly left headed (see (28) above) with the verbal structure inherited from POC little changed: I categories are prefixal and there are proclitic and enclitic PRONominals. In spite of the right headed clausal structure, clause changing structures are not innovated: it appears the left-headed verb puts pay to that. Manam conjoins

clauses together, each headed by a fully inflected I specified verb. There are, however, very incipient signs of things to come in that the conjunction *be* 'and' becomes encliticized to the fully inflected verb preceding it. Bound conjunctive suffixes in dependent verbs are a salient feature of clause chaining structures.

- (29) tamóata bóro di-tao-taon-í-be
 man pig 3PLS REAL-RED-hunt-3SG O-CONJ

 áine réga di-/oto-/óto-O
 woman firewood 3PL S REAL-RED-break-3PL O

'The men were chasing the pig and the women were gathering firewood'
 Precategoriality, while rare from Lichtenberk's description, as fully expected from the language's semi-shift to a right headed typology, is attested. For example there is a root *nanari* which can be used as in intransitive verb 'tell a story' or the noun 'story' as in the possessive construction

- (30) nanari ne-gu nanari-ta/-a-gu
 story CLSF-1SG POSS story-TR-NOMLZ-1SG POSS
 'my story' (I told) 'my story (about me)'

But this is rare; it appears even robustly categorially vague words like 'rain' are resolutely categorial in Manam:

- (31) (a) úra i-púra
 rain 3SG S REAL-come
 'It started to rain'
- (b) natu /ategísi i-púra (compare (21))
 child teacher 3SG REAL-come
 'His son (literally 'child') became a teacher'

Examples like (30) should perhaps be analyzed then as lexical exceptions, rather

than representing precategoriality in the language.

Finally, the Bel subgroup of languages spoken around Madang has shifted most strongly in the direction of neighboring right headed NAN languages (Ross 1987). These share the innovations noted above for Manam, but have become canonical right headed languages, with structures that look for all the world like clause chaining (Ross 1994). The crucial innovation that seems to have made these possible is the shift from prefixal to suffixal I inflection, i.e. the IP projection is clearly, unambiguously right headed (the mood inflection, REALis versus IRRealis appears to be the highest I category in these AN languages, in contrast to many TNG languages in which this is illocutionary force. It is the position of the highest I category that determines the head typology).

(32)

(a) Gedaged (Dempwolff n.d.)

tamol i-l(a)-e

man 3SG S-go-REAL

'The man went'

(b) Takia (Ross 1987)

	panu	na	N-au	wa
village	OBL	1SG S-go	IRR	

'I shall go home'

Interestingly, the contrast between IRRealis and REALis PRONominal prefixes, salient in Manam and so pervasive in the Oceanic languages of the New Guinea region, is lost in the Bel languages in favor of modal suffixes or enclitics, bringing the language wholly into line with a right headed typology. Clause

chaining appears to emerge, with the typical Madang area pattern of mood inflection for dependent verbs:

(33) Takia (Ross 1987, 1994)

(a)	iN		i-marsi-go	fud	i-ani	a
3SG	3SG S-sit-REAL		banana	3SG S-eat	REAL	

'He sat and ate a banana'

(b)	iN		i-marsi-pe	fud	i-ani	wa
3SG	3SG S-sit-IRR		banana	3SG S-eat	IRR	

'He will sit and eat a banana'

While these structures look NAN, the actual DEPENDENT verb markers, *-go* REAL and *-pe* IRR are clearly of AN vintage, *-pe* IRR being cognate with Manam *-be* 'and' in (29) above (Ross 1987). The system, however, is clearly calqued, for such a contrast in dependent verbs is pervasive in Madang area languages of diverse families:

(34) (a) Watam (NAN: Lower Sepik-Ramu)

(i)	ma	birka-r	naNas	Ng-amb-ri
3SG	sit-REAL	banana	FOC-eat-PAST	

'He sat and ate a banana'

(ii)	ma	birak-mbe	naNas	Ng-am-na
3SG	sit-IRR	banana	FOC-eat-FUT	

'He will sit and eat a banana.'

(b) Bargam (Hepner 1995) (NAN: Trans New Guinea)

(i)	leh-ad	i	ekton-y-auq
go-REAL	1PL	yell-IMPERF-1PL S	

'As we were going, we were shouting'

(ii)	ni	leh-eq	i	ninmen	karuw	araq
2SG	go-IRR	1PL	2SG.DAT	meat	a	

wil	em-O-am
hit	do-FUT-1PL S

'If you go, we will kill a pig for you'

In addition, as is typical of NAN languages, the dependent verbs may be marked for relative tense/aspect by suffixes which immediately follow the verb, but precede the DEPENDENT marker:

(35) Takia (Ross 1987)

(a)	iN	fud	ta	i-ani-du-go	Nai
3SG	banana	a	3SG S-eat-SIM-REAL	1SG	

	you	Na-luk	a
water	1SG S-drink	REAL	

'He was eating a banana while I was drinking water'

au	(b)	Nai	N-ani-gu-p	panu	na	N-
	wa		village	OBL	1SG S-go	IRR
	1SG	1SG S-eat-SEQ-IRR				

'I shall eat and then go home'

(c)	tamol	di-ani-na-g	i-sida	ya
man	3SG S-eat-DUR-REAL	3SG S-enough	REAL	

'The men ate until they were full'

It is clear that the basic use of these suffixes is aspectual, as is transparent in their use with independent verbs (Ross 1987):

(36) Meit nal pempem iN sa·n wog lo
 Mait day every 3SG CLSF·3SG POSS canoe OBL

i·sida·na ya
 3SG S-board-DUR REAL

'Mait used to board his canoe every day'

While not obvious in Takia, the source of these aspetual suffixes is from earlier serial verb constructions in which the second verb was used as an aspectual modifier, a very common feature of Oceanic languages. Takia's close relative Gedaged exhibits this transparently:

(37) Gedaged (Dempwolff n.d.; Ross 1987)

(a) i mot i·nau·la·g me
 3 snake 3SG S-do-SEQ-REAL that

gasaN lon i·l(a)·e
 forest inside 3SG S-go-REAL

'After she gave birth to the snake, she went into the forest'

(b) o u·seg·me·g u·nasi·lak
 2SG 2SG S-come-SIM-REAL 2SG S-see-PERF

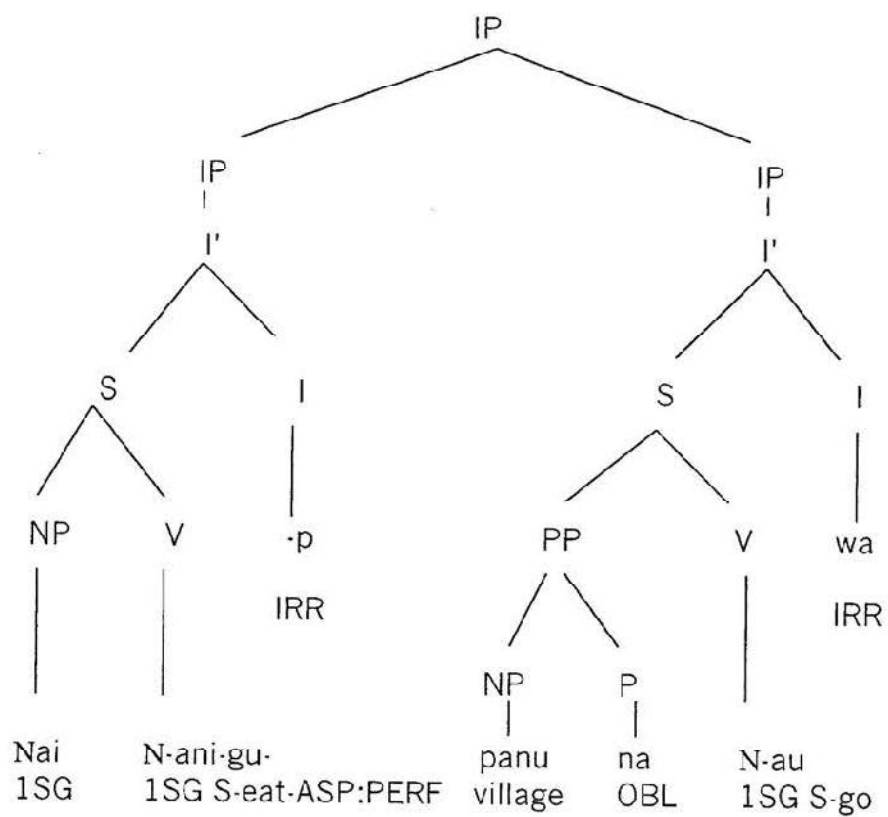
'While you were coming, you saw'

(c) pain i mot oi di·e
 di·me
 woman 3 snake OBL 3PL S·fear 3PL S-IMPERF

Women fear snakes'

Note that the SEQuential form is *-la* and the SIMultaneous *-me*. These are undoubtedly identical to the aspectual markers with independent verbs *-lak* PERF and *-me* IMPERF, though, interestingly, *-lak* has become fully integrated as a suffix, while *-me* remains a verb in its own right in a serial verb construction, as witnessed by its own subject PROnominal marker. Both of these in turn descend from the POC verbs **lako* 'go' and **mai* 'come' (Ross 1987). But note that in contrast to the canonical Papuan pattern in which dependent verbs are quite stripped down and the morphological patterns of dependent and independent verbs very different, for example, the elaborate tense distinctions in Watam independent verbs are collapsed into a binary mood REALis-IRRealis contrast in dependent verbs, in Takia and Gedaged this is not the case. In these languages, the contrasts made are actually the same, the difference being the formal realization: Takia *-p(e)* IRR on dependent verbs, *wa* IRR on final verbs. This suggests that in contrast to the true clause chaining structure of (25) with nested conjoined S nodes within a higher IP projection from a final main I head, these AN structures are really conjoined IPs, each with their own I head:

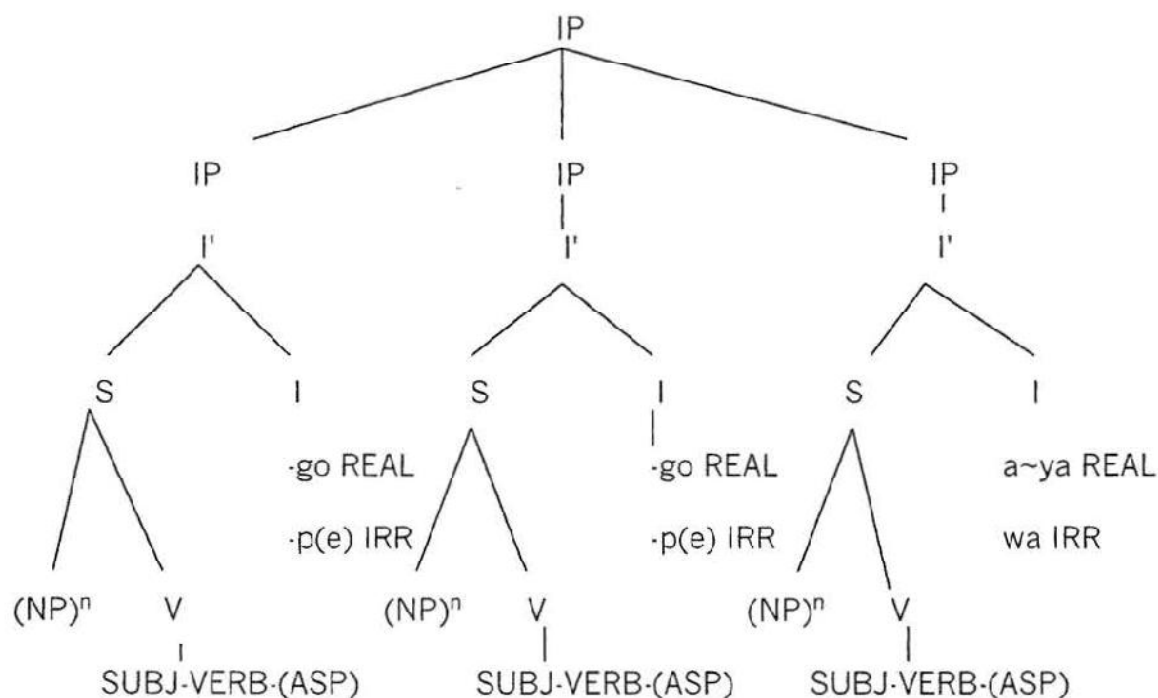
(38) = (35b)



'I shall eat and then go home'

or schematically:

(39) (compare 25)



In other words, these are virtual clause chaining structures only, in superficial appearance similar to NAN structures, but in nature different. These are really still structures of paratactically linked conjoined clauses, like those of Manam, with suppletive I heads for non-final versus final verbs (the shift from a conjunction to an I category is itself an interesting phenomenon). It is the shift to final I heads and the thoroughgoing REALis/IRRealis distinction across clauses that is the crucial innovation here and one undoubtedly due to strong pressure from neighboring NAN languages like Bargam. While the clause linkage structures of Bel languages may look Papuan, they are not. They unquestionably betray their Oceanic heritage in their preference for fully I inflected clauses loosely

conjoined. It seems that this a pervasive property of AN typology that is very conservative and not easily given up, even in the face of strong NAN pressure as witnessed by the Bel languages. It would be valuable to compare other cases of language contact between language families of strongly contrastive basic typologies to see what grammatical properties are easily negotiable in these situations and what are not. This would be invaluable data in building informative theories of grammatical structure.